SYCARD TECHNOLOGY

PCCextend 135 CardBus Extender User's Manual

Preliminary

M200059-00
February 2003

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1.0 Introduction

Sycard Technology's PCCextend 135 CardBus extender card is designed for production and test environments where a external power supply is required for card test. An external power supply can provide accurate current measurements and voltage margin testing.

- Low profile design compatible with type I, II and III sockets
- 6-layer construction to insure a low noise environment
- Vcc, Vpp1, and Vpp2 can be supplied from an external source
- Screw terminals or 0.1" headers for quick external power connection
- Vcc LEDs indicate 3.3V or 5V operation
- SMT resistor pads allow user to isolate or add series resistors to any signal
- Convenient grounding posts for scope probes or other test equipment
- Low on-resistance MOSFET switches (less than 50 mOhm)

2.0 Setting up the PCCextend 135

The PCCextend 135 is a single piece extender card that can be inserted in Type I, II or III CardBus slots. Prior to inserting into the CardBus host the user should connect the external power supplies. Prior to connecting the external power supplies, the user should verify that the power supplies are set to

Connections are made via the screw terminals at P3 or the 0.1" single row header at P4.

Pin	Power Connection
1	External VCC
2	External VCC
3	Ground
4	Ground
5	External VPP1
6	Ground
7	External VPP2
8	Ground

Table 2.0.1 External Power Supply Connection

Caution: *Insertion and removal of the extender and PC card should be done with care. The PC Card's fragile connectors may be broken or bent if improper force is used. Both card and extender should be inserted straight without any lateral movement or force. Proper care and use of the extender card will insure years of trouble free operation.*

Note: *Because of the configuration of the MOSFET switches it is only possible to supply a single voltage level to the Vpp1 and Vpp2 supplies. For example, if the external Vpp1 or Vpp2 power supplies are set to 12V and the host's Vpp1 is set to 5V then the CardBus card under test will be powered to 12V.*

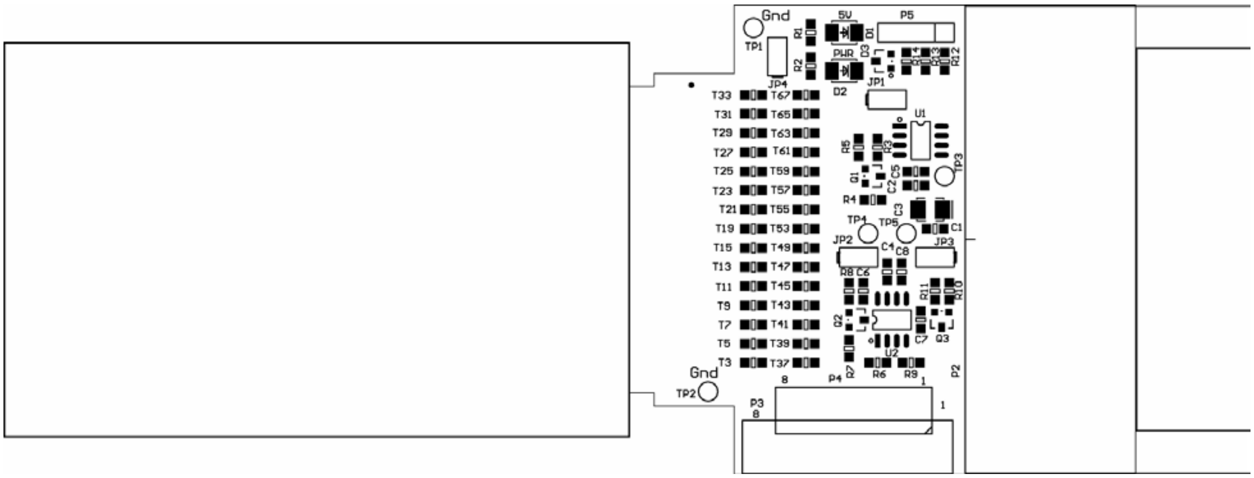


Figure 2.0-1 The PCCextend 135

2.1 Using the PCCextend 135

Once the external power supplies have been connected, the PCCextend 135 can be inserted into the CardBus host. Prior to inserting the PCCextend 135 insure that the external power supplies are turned off. After inserting the PCCextend 135 into the host slot the external power supplies can be powered-on.

Caution: Insure that the external Vcc power supply does not exceed 3.6V or damage to the CardBus card under test may result. Also insure that the external Vpp1 and Vpp2 power supplies do not exceed 12.6V.

When the external power supplies are connected and enabled card testing may begin. Insert a card under test

2.2 Power Indicators

Two LED power indicators display the status of the socket's Vcc. The PWR LED indicates that power is applied to the board. When both the PWR LED and the 5V LED are lit, a Vcc of greater than approximately 3.5V is present. When only the PWR LED is lit, the Vcc is at a level of less than 3.5V. For critical measurement applications it may be necessary to eliminate the current drawn by the LEDs from the total power draw. This can be accomplished by removing jumper JP4.

> ***Note**: The power LEDs are designed to indicate the presence of power on the Vcc supply pins. The LEDs do not provide an accurate measurement of Vcc. Use a voltmeter to determine the actual operating voltage.*

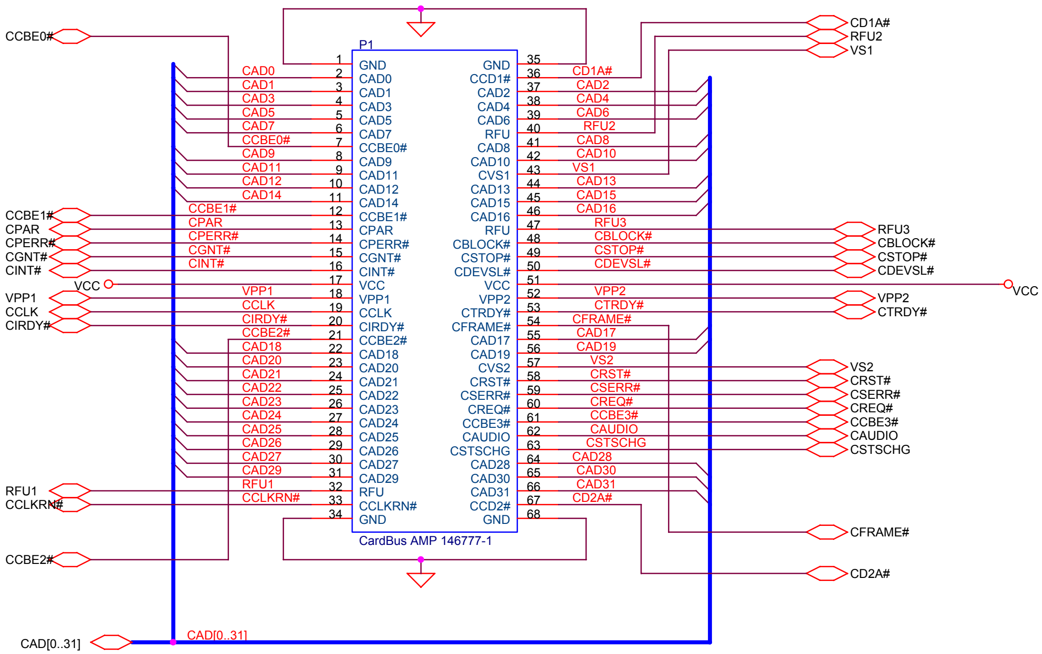
2.4 Series Termination Area

A series termination area located between the test points and the card connector allows access to all PC Card signals. A series of surface mount pads allows the user to add series resistors to any signal. The SMT pads are arranged as follows:

When shipped from the factory, the resistor pads are shorted with PCB traces. In order to insert series resistor, these traces must be cut prior to soldering the resistor to the board. Figures 2.4-1 and 2.4-2 illustrate the termination areas located on both sides of the PCCextend board. Use this guide when making modifications to the board since the silk-screen designations may be difficult to read.

Appendix

A. PCCextend 135 Schematic



HOST SIDE CONNECTOR

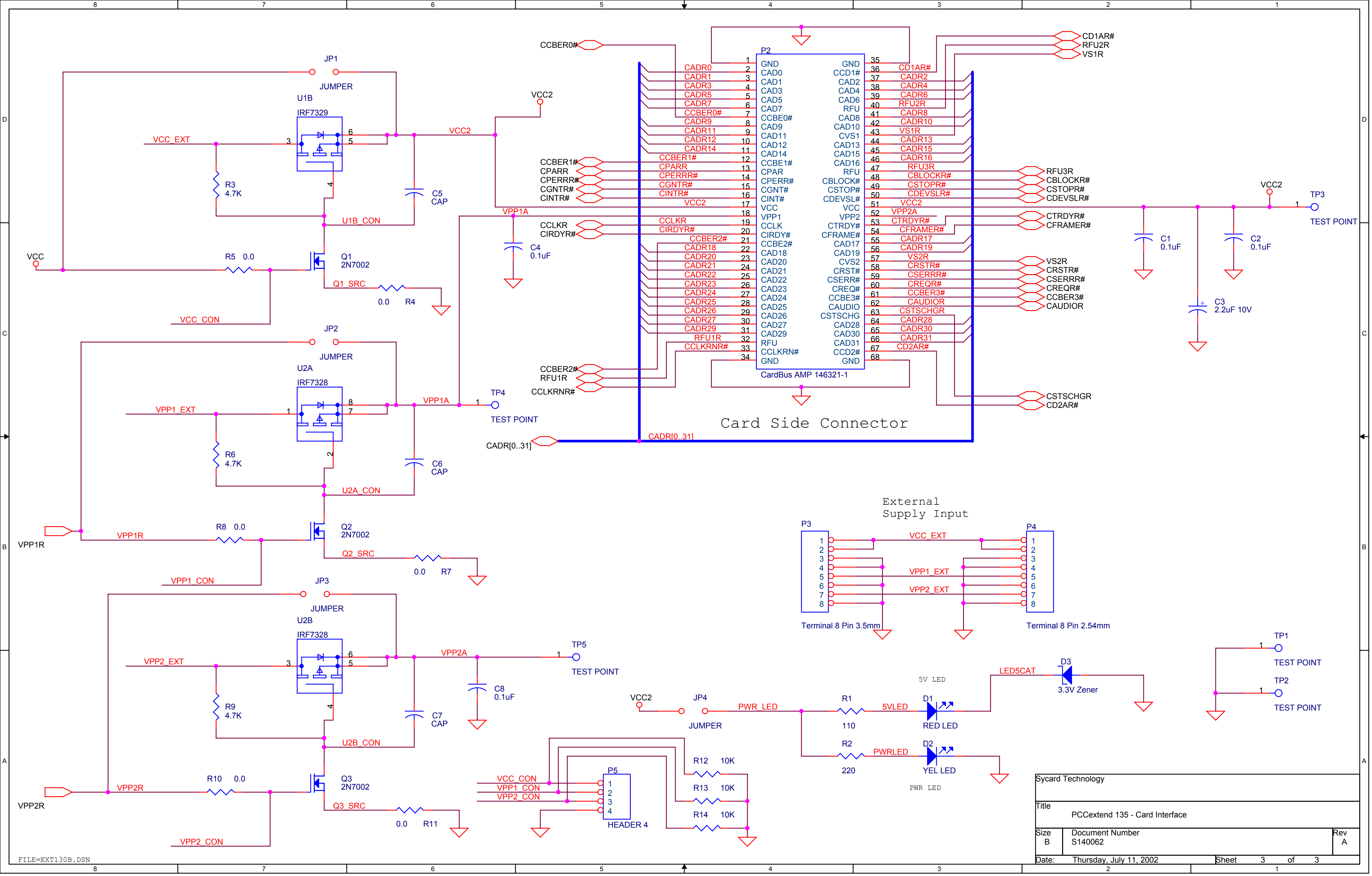
Sycard Technology		
Title: PCCextend 135 - Host Interface		
Size: B	Document Number: S140062	Rev: A
Date: Thursday, May 09, 2002	Sheet 1 of 3	

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Title	PCCextend 135 - Series Resistors
Size B	Document Number S140062 — Rev A
Date: Tuesday, May 07, 2002	Sheet 2 of 3



Card Side Connector
P2
CardBus AMP 146321-1
GND
CAD0
CAD1
CAD3
CAD5
CAD7
CCBE0#
CAD9
CAD11
CAD12
CAD14
CCBE1#
CPAR
CPERR#
CGNT#
CINT#
VCC
VPP1
CCLK
CIRDY#
CCBE2#
CAD18
CAD20
CAD21
CAD22
CAD23
CAD24
CAD25
CAD26
CAD27
CAD29
RFU
CCLKRN#
CCD1#
CAD2
CAD4
CAD6
CAD8
CAD10
CVS1
CAD13
CAD15
CAD16
CBLOCK#
CSTOP#
CDEVSL#
VPP2
CTRDY#
CFRAME#
CAD17
CAD19
CVS2
CRST#
CSERR#
CREQ#
CCBE3#
CAUDIO
CSTSCHG
CAD28
CAD30
CAD31
CCD2#
CD1AR#
RFU2R
VS1R
CCBER0#
CCBER1#
CPARR
CPERRR#
CGNTR#
CINTR#
CCLKR
CIRDYR#
CCBER2#
RFU1R
CCLKRNR#
CADR[0..31]
RFU3R
CBLOCKR#
CSTOPR#
CDEVSLR#
CTRDYR#
CFRAMER#
VS2R
CRSTR#
CSERRR#
CREQR#
CCBER3#
CAUDIOR
CSTSCHGR
CD2AR#
JP1
JUMPER
U1B
IRF7329
VCC_EXT
VCC2
R3
4.7K
C5
CAP
U1B_CON
VCC
R5 0.0
Q1
2N7002
Q1_SRC
0.0 R4
VCC_CON
VPP1A
C4
0.1uF
JP2
U2A
IRF7328
VPP1_EXT
TP4
TEST POINT
R6
4.7K
C6
U2A_CON
VPP1R
R8 0.0
Q2
Q2_SRC
0.0 R7
VPP1_CON
JP3
U2B
VPP2_EXT
VPP2A
TP5
C8
0.1uF
R9
4.7K
C7
U2B_CON
VPP2R
R10 0.0
Q3
Q3_SRC
0.0 R11
VPP2_CON
C1
0.1uF
C2
0.1uF
C3
2.2uF 10V
TP3
VPP2A
External
Supply Input
P3
P4
VCC_EXT
VPP1_EXT
VPP2_EXT
Terminal 8 Pin 3.5mm
Terminal 8 Pin 2.54mm
TP1
TP2
TEST POINT
LED5CAT
D3
3.3V Zener
5V LED
JP4
PWR_LED
R1
110
5VLED
D1
RED LED
R2
220
PWRLED
D2
YEL LED
PWR LED
R12 10K
R13 10K
R14 10K
P5
HEADER 4
VCC_CON
VPP1_CON
VPP2_CON
FILE=EXT130B.DSN
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Title
PCCextend 135 - Card Interface
Size
B
Document Number
S140062
Rev
A
Date: Thursday, July 11, 2002
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